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## PATENT SPECIFICATION



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466,002

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### PROVISIONAL SPECIFICATION

#### An Improved Hypodermic Needle

I, SELWYN HENRY WINTER, of 21, Ely Place, Holborn Circus, in the County of London, a British Subject, do hereby declare the nature of this invention to be as follows:—

Hypodermic needles have cylindrical bodies which are ground off obliquely at one end on a plane to form the point. The said plane makes an angle where it meets the cylindrical body. When the needle is inserted in flesh, with an even pressure, the needle enters regularly until the said angle is about to enter the flesh when the flesh springs or jumps over the angle and the needle then enters more rapidly. This causes unnecessary pain.

The object of the present invention is to so form the needle that it enters to the desired depth at an even speed and thus causes less pain.

According to the present invention the needle is ground so that the plane joins the body or stem with a gentle curve. The plane may first be ground and the angle may then be ground off to form the desired curve or the needle may be so manipulated that the curve is first ground and is then held still to produce the oblique plane and the point.

Dated the 3rd day of October, 1936.

HARRIS & MILLS,  
Chartered Patent Agents,  
34 & 35, High Holborn, London, W.C.1.

### COMPLETE SPECIFICATION

#### An Improved Hypodermic Needle

I, SELWYN HENRY WINTER, of 21, Ely Place, Holborn Circus, in the County of London, a British Subject, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

Hypodermic needles have cylindrical bodies which are ground off obliquely at one end on a plane, or slightly concave, to form the point which is part of the original straight edge of the tube from which the needle is made. The said plane or slightly concave surface makes an angle where it meets that part of the cylindrical body farthest from the point. When the needle is inserted in flesh, with an even pressure, the needle enters regularly until the said angle is about to enter the flesh when the flesh springs or jumps over the angle and the needle then enters more rapidly. This causes unnecessary pain.

The object of the present invention is to so form the needle that it enters to the desired depth at an even speed and thus causes less pain.

According to the present invention, the needle is formed with an oblique plane or slightly concave surface to produce the straight point that enters the flesh in the

usual manner. The point is part of the original straight edge of the tube from which the needle is made. The plane or slightly concave surface is connected to the body of the needle with a gentle curve at that part of the plane or concave surface farthest from the point.

The improved hypodermic needle may first be ground to form the plane or slightly concave surface and the needle is then manipulated to form the said gentle curve.

In another method of producing the improved needle it is manipulated so that the gentle curve is first ground and the needle is then held still to produce the oblique plane or slightly concave surface.

The invention is illustrated in the accompanying drawings in which Fig. 1 is an elevation of that end of a hypodermic needle that is inserted into the flesh and Fig. 2 is another elevation of the same seen at a right angle to that shown in Fig. 1, both views being partly in section, Fig. 3 is a view of the same seen in the direction of the arrow in Fig. 1.

As shown in the drawings *a* is the body of the needle which has a passage *b* therein. That end of the needle which enters the flesh is ground off at an oblique angle to produce the usual plane or

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slightly concave surface *c*. The drawings show a plane surface as that is the preferred method of forming the point, but in some cases if ground upon the edge of a stone, the portion *c* is slightly concave.

The surface *c* is connected to the body *a* by means of a gentle curve *d* which is situated at that part of the plane *c* farthest removed from the point of the needle *e*.

It is common practice to slightly grind off the edges of the plane surface as shown at *f* in Fig. 1 by a dotted line thereby forming a sharper point.

When the needle is inserted into flesh it gradually enters until the whole of the plane *c* has penetrated and then the flesh is gradually opened out still more by means of the gentle curve *d*. This construction enables the point of the needle to be inserted at an even speed and avoids the pain that is felt when the sharp angle between the plane *c* and the body *a* enters the flesh in hypodermic needles of known construction.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. An improved hypodermic needle having an oblique plane or slightly concave surface to produce the point that enters the flesh, the said point being straight and part of the original edge of the tube from which the needle is made the novelty consisting in connecting the said oblique plane or slightly concave surface with the body of the needle by a gentle curve at that part of the oblique plane or concave surface farthest from the point.

2. An improved hypodermic needle as claimed in claim 1, in which the end of the needle is first ground to form the oblique plane or slightly concave surface and the needle is then manipulated to form the said gentle curve.

3. An improved hypodermic needle as claimed in claim 1, in which the needle is so manipulated that the said gentle curve is first ground and the needle is then held still to produce the oblique plane or slightly concave surface.

Dated this 9th day of December, 1936.

HARRIS & MILLS,  
Chartered Patent Agents,  
34 & 35, High Holborn, London,  
W.C.1.

Fig. 1.

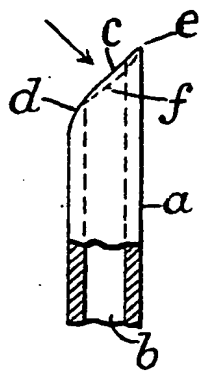


Fig. 2.

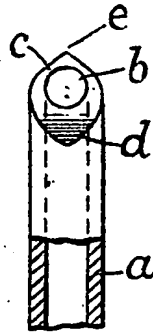
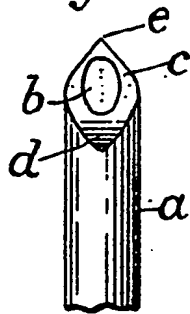


Fig. 3.



[This Drawing is a full-size reproduction of the Original.]

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